



Four-barred Swordtail

Butterfly &
Other
Invertebrates Club Inc.
Newsletter

ISSUE No: 18

DATE: SEPTEMBER, 2000

ISSN: 1236-0006

CLUB PLANNING AND ORGANIZING GROUP - 2000

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PLANNING AND ORGANIZATION MEETINGS

A quarterly meeting is scheduled in order to plan club activities and the newsletter.
See BOIC Programme.

CONTACT ADDRESS

PO Box 2113, Runcorn 4113, Queensland

AIMS OF ORGANIZATION

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, fireflies, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

NEWSLETTER DEADLINES

If you want to submit an item for publication the following deadlines apply:

March issue – February 21st

June issue – May 21st

September issue – August 21st

December issue – November 21st



EDITORIAL

Hello and welcome to our 18th edition. I'm going to explain one of our newsletter policies which involves referencing any sources of information that we use when writing our articles. We believe that it is very important that the sources of information are acknowledged. All work done builds on the work or observations others have done previously. Citing the source has the function of crediting those people and organisations for the work they have already done, and also allows the reader to trace through and verify any information which we have included.

Another aspect involves the situation which occurs all too often. That is, people find their work reproduced in other sources, without them or the source being acknowledged. In this way lots of good work isn't credited to the people who did it, and, unfortunately, lots of misinformation is also circulated.

Although we are not a scientific publication, we do aim to be as accurate as possible. As with any human endeavour, mistakes can easily be made. To help ensure that these can be traced, citing the reference is important.

Helen Schwencke

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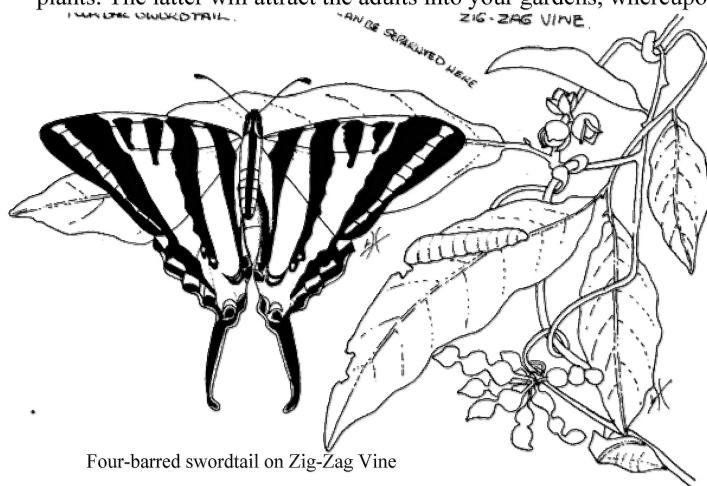
CREATURE FEATURES

Bob Miller has written the following article featuring one of the butterflies shown on our Poster. The poster can be obtained from BOIC, PO Box 2113, Runcorn, 4113. The cost for members is \$8 plus \$5 postage and handling. Non-members \$12 plus \$5 postage handling.

Four-barred Swordtail (*Protographium leosthenes leosthenes*)

This is one of my favourite local butterflies and I am sure that after you have seen it for yourselves, it will become one of yours. It is a very easily recognised insect, sporting a large tail on each of its hindwings, and four brown bars on its forewings. They are generally high flying, often seen around the tallest of the rainforest trees, carrying the Four-barred's larval foodplant, Zig-Zag Vine, (*Melodorum leichhardtii*, formerly *Rauwenhoffia leichhardtii*), but can also be seen at other times flying slowly, almost gliding, at eye level. It is a reasonably common butterfly on the Blackall Range, (west of Nambour Qld.) becoming even more common as the year progresses. It can be a regular visitor in your garden, just by planting nectar producing plants.

Another more interesting option is to plant the larval foodplant along with the nectar plants. The latter will attract the adults into your gardens, whereupon they will find



Four-barred swordtail on Zig-Zag Vine

the correct plant on which to lay their eggs. Another bonus in planting the Zig-Zag Vine is that it is also the larval foodplant of the Pale Triangle (*Graphium eurypylus lycaon*). This butterfly is also fairly common in South-east

Queensland.



The Four-barred's larvae are reasonably easy to detect when they are on the Zig-Zag Vine, as they have a tendency to rest on the upper surface of the leaves. They are only small larvae, being approximately 35mms long when fully grown, and are very similarly coloured to the young foliage of the vine. The pupae are always found hanging, suspended by their tail and a central silken girdle to the underside of a leaf of the foodplant.

Barung Landcare at Maleny, regularly has supplies of Zig-Zag Vine in stock, the fruit of which is also a recognised bushfood.

Further information about this subject can be had by reading, "Butterflies of Australia", by Common and Waterhouse 1981.

Bob Miller

Ed. *Melodorum leichhardtii* is also available from Toona Rainforest Gardens, Mudgeeraba, Ph/Fax (07) 5530 5299.

Spittle Bugs (Order Hemiptera, superfamily Cercopoidea, family Aphrophoridae)

"Spittle bugs", often called "Froghoppers" are sucking insects which in the nymph stage live encased in a foam or froth made by expelling air through their liquid body excretions. The details of this are in CSIRO's "The Insects of Australia" 2nd Edition 1990 page 467. The winged adults superficially resemble "Leafhoppers" of the family Cicadellidae (see article by Ros Popple BOIC Newsletter No.15 of December 1999), or even "Gumtree Hoppers" (family Eurymelidae) all of which look like miniature cicadas.

After two successive years of good winter rains, the spring of '99 was heralded in by an excess of new growth of plants within southeast Queensland. Along with this profusion of copious sap and fresh new leaves the insect population exploded. We began to see species "lost" for years such as the White Nymph and Purple Crow butterflies. Other less well known creatures started to appear, including colonies of Spittle Bug. I first noticed colonies of them in October on the terminal branches of rough-barked *Angophora woodsiana* at my Capalaba property. Dry Rainforest trees such as *Bridelia exaltata* at Mt. Cotton had colonies, and on our November BOIC reconnaissance visit to the Kholo Enviroplan Reserve near Pine Mountain Ipswich, we found them on the smaller stems of Blood Vine (*Austrosteenisia blackii*) (see Excursion Report page 4 BOIC Newsletter No. 15 of December 1999). Lindsay Popple found an adult in his light trap at Belmont Hills (Eric Vickerman's property

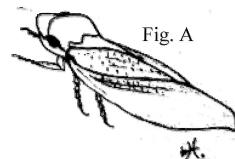
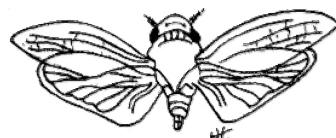


Fig. A

near Carindale) on 31st October 1999. In addition, David Behrens found a colony on *Glochidion ferdinandi* at his Rochedale property on 28th October, 1999.

The species collected appeared to be close in form to *Chaetophyes compacta* which is in the family Machaerotidae. (See this illustrated as Fig.C which is reproduced from Fig.30.30c on p469 of The Insects of Australia). But the accompanying notes say that this particular species lives as a nymph encased in “calcareous tubes or cases In which they live and feed immersed in their liquid excreta”! As bizarre and unpleasant as this sounds, it obviously gives them some protection from predators and desiccation! But it could not have been our species, which had become a diagnostic dilemma! There is another illustration in the Insects of Australia (fig. 30.30B) of

Philagra parva, a common spittle-making species in the family Aphrophoridae, which usually infests *Acacias* and *Casuarinas*. This species has marked prolongation of its head, as shown in a reproduction of that illustration (Fig. B). Thus, as can be seen from Fig. A (the illustration drawn by Lois from adult specimens collected as mature nymphs from the *Angorphora* colony) this was definitely not our species.

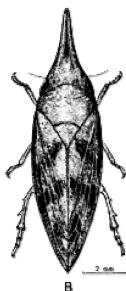


Fig. B *Philagra parva*

So what was the identity of our species? It was just possible, although unlikely, that at least one Machaerotid similar to *Chaetophyes compacta* lived in spittle colonies rather than calcareous tubes, or more likely that there was another species in the family Aphrophoridae, not illustrated in Insects of Australia, but presumably described in some obscure journal. From my experience with cicadas the other possibility of an undescribed species also came to mind. I could just see myself wading through some of the late (Homoptera authority) J.W. Evans' taxonomic papers, to look for a description that fitted our species, as at that time most Queensland Museum specimens of Cercopoids were on loan to an overseas researcher, so there were few available for comparisons.

Fortunately, Geoff Thompson, Entomology Department technician at the Queensland Museum, recalled dealing with David Behrens' specimens, which were determined to be the Aphrophorid *Eoptyelus australis*. Thank you Geoff.

Our readership may care to access Murray Fletcher's website "Key to the Australian Planthoppers" at <http://www.agric.nsw.gov.au/Hort/ascu/cercopid/cerc00.htm> on which there is a lateral view of a pinned specimen in rather poor condition! Murray disputes this aspersion on his specimens and comments that the apparent poor quality is due to a covering of moth scales from the U.V. light trap when it was recovered!

(Note: The upper case "H" for Hort is not a typo!)

John Moss
August 2000



Further reading: J.W. Evans 1966 "The Leafhoppers and Froghoppers of Australia and New Zealand". Australian Museum Memoir 12:1-347.

PLANT PROFILE

Zig-Zag Vine (*Melodorum leichhardtii*) (Formerly *Rauwenhoffia leichhardtii*)

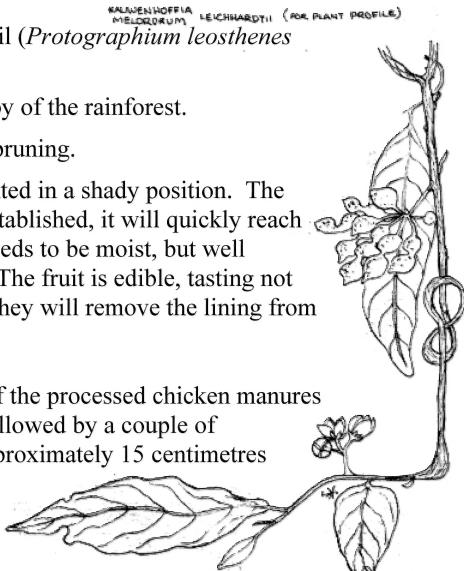
Host for Butterfly: Four-barred Swordtail (*Protographium leosthenes*)

Height: These vines will reach the canopy of the rainforest.

Shape: Can be kept as a small shrub by pruning.

Growth and features: Prefers to be planted in a shady position. The growth is slow at first, but once it gets established, it will quickly reach the canopy of the tallest tree. The soil needs to be moist, but well drained with a good covering of mulch. The fruit is edible, tasting not unlike citrus, but don't eat too many, as they will remove the lining from your mouth!

Fertilizer: Generally, a handful of one of the processed chicken manures (now readily available) upon planting, followed by a couple of handfuls every few months. Mulch to approximately 15 centimetres deep, keeping the mulch 15 centimetres from the stem.



Why was this plant chosen?: So far, this is the only known larval foodplant for this butterfly. Another butterfly, The Pale Triangle (*Graphium eurypylus*), also uses this as a larval foodplant.

Bob Miller

BUTTERFLY GARDENING

PART 2 - CREATING A BUTTERFLY FRIENDLY GARDEN FROM SCRATCH

If your piece of ground is undeveloped or just composed of weed species, then you are in a position to create a butterfly haven.

Where do you begin? Consider the needs of the insects you wish to attract and maintain. What are their basic requirements?



- (a) Larval host plants in sufficient quantity and of sufficient size to support caterpillars.
- (b) Sheltered and sunny, wind free areas for butterflies to alight on leaves to sun themselves.
- (c) Nectar plants of the correct species to suit a variety of butterflies with different lengths of proboscis. Most of these flowers tend to be tubular in shape although some butterflies use the nectar of Eucalypts which have wide and shallow flowers.
- (d) Sufficient flight paths and spaces between plant groups in order that butterflies may fly to their preferred plants.
- (e) Some muddy and wet areas for butterflies to sip mineralised water.
- (f) A few untidy and wild grassy areas containing native grass species, especially clumping *Themeda* and *Poa*, Lomandras, *Dianellas* and *Gahnias* which are never mown or sprayed with chemicals.

When creating a new garden, it would be a mistake to plant only butterfly host plants, as the result would probably look very scrappy and unattractive. A better plan would be to plant a variety of indigenous native species and include say 30% - 40% of butterfly host plants within the plantings. In this way, 60% - 70% of plants would form the framework of the garden. They would not become chewed and those chewed plants would not dominate.

Divide the garden up into a number of sections - this can be planned on paper, so that each section contains plants with similar basic requirements. The idea here is for low maintenance. The sections may include:

- * a subtropical rainforest area
- * a dry rainforest area
- * a dry sclerophyll area
- * a heathland area
- * a wetland area
- * a herb and grass area.

If your land is flat and small, you may opt for only one or two of these plant community areas. If your terrain is larger and has varied topography you will be able to accommodate all the plant communities you wish.

Each plant community type should be separated by 2 - 3 metre wide paths.

Communities of taller plants would ideally be located to the south of those containing smaller sun loving species such as sedges and heathy shrubs. Wetland areas need to be located on the lowest part of the land or near a dam / creek or catch runoff from the house or higher parts of the land.

Each of these plant communities will be dealt with in subsequent newsletters but the basic principles of good design and preparation are common to all.



Soil and Site Preparation

1. Bare and Grassy Areas - Spray entire area with glyphosate (mix according to directions on label). Leave 10 days and respray missed areas. Alternatively, cover entire area with overlapping newspaper (minimum 10 pages thick) and mulch with 10 cm of organic mulch. Leave 2 - 3 months before planting in it.
2. Bare Soil - If soil is subsoil clay, then cover with 15 cm of imported soil, plant and mulch. If soil is topsoil, then plant and mulch with 15 cm of organic mulch (or visa versa). It is a good idea to test the pH of the soil and add lime or dolomite before mulching to raise the pH to 6.5.

If the area is flat, then soil should be formed into raised beds separated by drainage channels (with or without pipes) before mulching. The beds need to be raised only 15 cm - 20 cm.

3. Scattered trees on site - Remove any 'feral' trees, e.g. Camphor Laurel and *Eucalyptus torelliana*. Leave local trees and local clumping grass species. Kill grass between trees by mulching or use glyphosate and then mulch. Plant understorey shrubs, rushes, grasses and herbs which suit that area and are of local indigenous origin.

You are now ready to plant.

Graham McDonald

BYE-GONE BUTTERFLY DAYS

Our recent exciting rediscovery in Queensland of the *morrisi* subspecies of the Swordgrass Brown butterfly reminded me of an article that I recently read in the Brisbane History Group 1989 publication "Brisbane Butterflies and Beetles". The story of Millais Culpin, a 17 year old migrant from Britain, who arrived in Australia in April 1891, makes fascinating reading, as he tells it himself in a series of 21 letters written to his friends back in England. These friends, from his old school in London, shared his interest in entomology and had formed their own school "bug" club.

Millais' interest led him to meet prominent (now famous) entomologists such as Rowland Illidge, Henry Tryon, Dr Alfred Jefferis Turner, Dr Thomas Pennington Lucas, C.J. Wild and W.H. Miskin. (Ed.note: the first and second named have been subjects of previous articles in this column and further articles are planned for some of the remainder.) He formed a close ento-professional relationship with the two medical men who no doubt influenced him into eventually taking up a career in medicine. (His own father was a doctor with a practice in Taringa and eventually entered parliament.)

At that time (1890's) there was a Field Naturalists' Section of the Royal Society of Queensland, under the chairmanship of Frederick Manson Bailey, the Colonial Botanist. This section folded in 1894, but its place largely had already been taken by



the formation of the Natural History Society of Queensland in January 1892. This short-lived society was the forerunner of our present day Queensland Naturalists' Club and the Entomological Society of Queensland. Millais was one of the founding members and played an important role in garrisheing support for its formation. Amongst the other founding members were H. Tryon (President), T.P. Lucas (Vice-President), R. Illidge, A.J. Turner and C.J. Wild.

After 15 months, Millais left Brisbane to take up a 4 year government teaching position, in a one teacher school at Laura in North Queensland, but not before he had amassed a significant natural history collection, mainly insects and predominantly moths and butterflies. Most of these he sent back to his friends in England, keeping only a few representative specimens for himself. Some specimens he exchanged with Turner and Lucas and a few he sold to overseas collectors to help defray costs.

Now you, the reader, may well ask just where the Swordgrass Brown butterfly comes into this discussion? In his 9th letter, dated 10th to 19th of October 1891, Millais mentions a trip to Gympie whence he returned with "three specimens of Epinephile Rawnsleyi" (sic) and continues "of which there are only three other specimens known, viz two at the Queensland Museum and one in the collection of Miskin". He goes on to say "I consider myself fortunate in getting my 3 specimens of E. Rawnsleyi, especially when I reflect that I am the possessor of half the specimens (in collections) in the world."

Millais' description of the capture site and environs is worth repeating here:
"The first day I travelled through the bush nearly to Eumundi, & camped by a creek in an open bit of country between North Arm & Eumundi. Next morning, after a bushman's meal of billy-tea & bread, I entomologised around the place & took my first E. Rawnsleyi. I found sport scarce & so I shouldered my swag & footed it Northwards. Then suddenly I entered a dense sandy palm-scrub, a collection of gum-trees, fern-trees, cabbage trees, feather-fan-palms, and all sorts of semi-tropical plants. In this scrub scarcely an insect was to be seen, the sun was out of sight & the whole country consisted either of sandy soil or chocolate scrub-soil. In some parts it would be like walking on a sandy beach, & yet the vegetation was as dense & luxuriant as possible. I should have been bushed if I had had no compass, for the sun was absolutely hidden from view, nor could I see at all in what quarter it was. Here I saw a couple of small kangaroos along a creek, besides many beautiful birds; there were probably plenty of insects above the scrub, but I saw very little of them. Papilio sarpedon I occasionally caught a glimpse of, but that was all. Gradually the country got hilly & I was obliged to turn back to level ground & make for the railway-line. The hills were very steep & it would be impossible to climb them without a party of axemen to clear the scrub & jungle. After footing it along the railway-line (which I hit, after a lot of hard work, in about three hours) I found myself on a spur of the Blackall Range, and fairly amongst the mountains. Here the scenery was grand, palms, fern-trees, etc., were there by hundreds, whilst every tree had large clusters of



birds' nest ferns up the trunks; on the mountain sides, the scrub was continued, whilst above it splendid Bunya-bunya pines towered far into the air.

About 5 miles this side of Cooroy I saw a curious thing, very common in Australia. A beautiful creek ran through the sandy scrub, & I followed it for a long way, as that was the only method of getting along without great labour. After a few miles it expanded into a water-hole; there was swift current into the water-hole, but not a drop of water flowed out, the creek, I suppose ran underground from that spot.

I was obliged to stick to the railway till I got to Cooroy, as there was no means of forcing a way through the scrub up & down the mountains. Along the line I took two more *E. rawnsleyi*, and a few other insects.

At Cooroy I bought some more grub at a store & then started for Cooran; the scrub was now replaced by open bush, which was very pleasant to travel through. The scrub & the bush are two very different kinds of country; the bush is fairly easy to travel through, but the scrub is almost impassable.

I took a few insects in this part, except at one place where I came to a deserted farm, where there was a plantation of orange trees. Around the orange trees were flying specimens of a *papilio* almost the same as *P. machaon*, but without tails (I send two in your packet – it is *P. sthenelus*). A little more tramping brought me to Cooran, where I bought more tucker and then I moved on a bit & camped on the banks of a creek at the foot of Mt. Cooran.”

The subspecies of Swordgrass Brown that Millais refers to is now known as *Tisiphone abeona rawnsleyi*, which occurs from Fraser Island (J. Moss pers. recs.) and Maryborough, south to a line from the Blackall Range at Maleny, through Mt. Beerburrum to Toorbul Point on the coast (R. Eastwood). The southern coastal (mainly N.S.W.) subspecies *T.a morrissi* appears to have ranged north as far as along an axis between Cedar Creek at Mt. Tamborine (A.N. Burns), Yatala/Pimpama (D.P.A. Sands) and Jacobs Well on the coast. Strangely, their host plants, *Gahnia clarkei* and *G. sieberiana* grow just north and south of the Brisbane River which is possibly the original (presettlement) line of subspecies demarcation.

The story of this remarkable butterfly, its various subspecies, their current status, habitat reconstruction and translocation recovery programs, will be taken up in a later issue.

**John Moss
August 2000**



Every Butterfly was Once a Caterpillar

Many people are familiar with the concept of attracting butterflies to their garden by planting lots of nectar plants, but few people have given any thought to where these butterflies come from. Every butterfly was once a caterpillar and each butterfly has its own plant or group of plants that its caterpillars feed on. It is these butterfly creating plants (or host plants) that are the key to successful butterfly gardening; without them there would be no butterflies.

Unfortunately, many of these native host plants are disappearing as their habitats are lost to development or overcome by weeds. Some lucky butterflies have managed to adapt to exotic ornamentals and weeds that are closely related to their native host plants. However, most butterflies are declining as their host plants disappear. The Richmond Birdwing is a well-known example of this.

To help reverse this trend, Frank Jordan of the Butterfly & Other Invertebrates Club has provided a list of some of the food sources for a number of local butterflies. This list of top ten butterflies is designed for beginners and includes those found to be most reliable in a suburban garden. Many of these more reliable butterflies are those which have adapted to exotic plants which are similar to their native host plants. Of course, as more experience is gained, the gardener can progress to the many less common but equally rewarding butterflies that would respond to an increase in their host plants.

While these butterflies have proved reliable visitors over a period of ten years to a West End garden there have been many times when there were no butterflies breeding in this garden at all. This is not so surprising for a creature that can fly wherever its whims and fancies take it.

The world of butterflies is a fascinating one, and the best way to find out about them is to grow the host plants and experience them for yourselves in your own backyard.

1. Orchard swallowtail - fruity fun

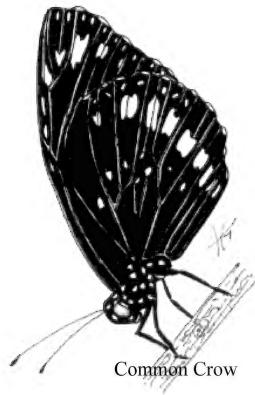
This is south-east Qld's second largest butterfly. The male and female have different wing patterns. The caterpillars feed on a variety of plants in the citrus family. Grow a lemon, orange, mandarin or grapefruit tree, and not only will you be providing yourself with some yummy fruit but also some food for the occasional caterpillar. It's a great way to get the kids



Orchard Swallowtail



away from the computer and into the real world of healthy food and the wonders of nature. You will also occasionally get the Dainty and Fuscous swallowtails feeding on your citrus tree.



Common Crow

2. Common crow - balcony butterfly

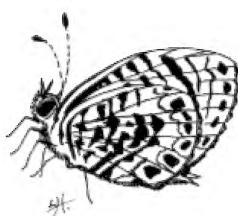
The common crow is the most memorable butterfly of childhood because of its remarkable metallic silver chrysalis. While most people remember finding these on oleander bushes, the caterpillar feeds on a range of plants, one of which is the weeping fig. Don't grow it in the ground, but put one of these in a large pot, in a semi-shaded spot. Eventually the caterpillars will come and strip away all the foliage leaving only some shiny ornaments. In this way you can even have a butterfly garden on your balcony.

3. Chequered swallowtail - lawn replacement

Emu foot is a small prostrate legume with a thick taproot, which likes to grow in full sun. It can be used as a replacement for a lawn in areas that are not mowed frequently. You need a large patch of this plant to attract the female chequered swallowtail.

This is a butterfly whose beauty is frequently difficult to appreciate because it is so fast-flying. Luckily they slow down just enough for you to get a good look when they are laying eggs.

Zebra Blue



Chequered Swallowtail

4. Zebra blue - hedge butterfly

If a hedge is what you need, don't go past the Plumbago plant. The small Zebra blue butterfly, which looks like a greyish-brown moth from a distance, is almost a permanent fixture around this plant. Up close the butterfly's beautiful pattern becomes apparent, especially the blue or purple colours of the inside wings. The small caterpillar is rarely seen because it is so well disguised among the seed heads and flower buds.



5. Speckled Line blue - wildlife tree

This butterfly is another of the cheerful small blue butterflies and has tiny little tails on its wings. Its host plant, the Native mulberry is a great wildlife plant. The small white berries of the female tree are attractive to a wide range of fruit eating birds including koels, lorrikets, silvereyes, and figbirds. Ringtail possums eat the leaves, along with hawkmoth caterpillars and hedge grasshoppers. And if you're lucky the caterpillars of the beautiful white nymph butterfly also will feed on your tree.



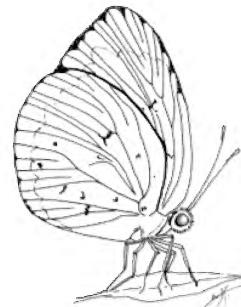
Speckled Line blue

6. Pale Triangle - bush tucker



Pale Triangle

Bush tucker plants are becoming all the rage, and the Zig-zag vine is one of these. Its small but tasty, tangy orange fruits are much sought after by connoisseurs. The plant can be pruned into a shrub, or left to grow naturally as a vine. It can be slow to grow in the beginning but is worth the wait. Pale Triangles can be blue, green or yellow in colour. Occasionally, you'll be lucky and have the Four-bar Swordtail caterpillars feeding on your vine as well.



Common Grass Yellow

8. Australian Leafwing - ground cover

Have you overdone the rainforest trees and now need a good ground cover for a moist partially shady spot? What about the very pretty Love Flower? There are many forms of this small herb, and they will self-seed to provide a permanent ground cover if the



location is suitable. The Leafwing butterfly, as its name suggests looks like a dead leaf, even with a fake mid-rib, until it is disturbed, then it flashes the bright orange of

Australian Leafwing

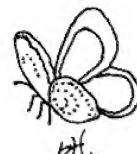


its inside wings. You'll need a fairly large area of this plant to encourage this butterfly to lay, and then you'll be rewarded by seeing its very spectacular caterpillar. Several other butterfly caterpillars also feed on this plant at times.

9. Tiny Grass Blue - frog pond

Would you like to liven up your frog pond? You could try growing a pot of Karamat (*Hygrophilla angustifolia*) in it.

This swamp plant is the host for the Tiny Grass Blue butterfly, whose caterpillars eat the seedpods. It



is one of our smallest butterflies. The blue-banded bee will visit the small purple flowers which only last half a day. At times,

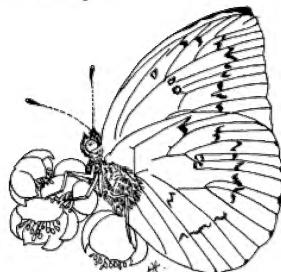
caterpillars of Meadow Argus, Blue Argus and Brown Soldier butterflies will also be found on this plant.

Tiny Grass Blue

10. Yellow Migrant

The Yellow Migrant is a medium sized butterfly with beautiful golden outside wings. Its host plant, *Senna* (or *Cassia*) *surattensis* is similar in habit to the Easter Cassia and is a good native replacement for this exotic. This plant needs to grow in full sun to be attractive to the butterfly. The flowers are buzz pollinated by many species of native bees including a large carpenter bee.

Yellow Migrant



Not all butterflies are easy to attract to breed in gardens. Some live in associations with different types of ants, others live on mistletoes and some do both. Those people who relish a real challenge could start with one of the Jezebels.





Northern Jezebel

11. Northern Jezebel - magic and mysticism

The mysterious mistletoe conjures up images of Xmas and Druids. Most people are not aware that there are over 80 species of mistletoe in Australia, and at least 16 species of butterflies that feed on some of these species. The Apostle mistletoe, *Dendrophoe vittelina*, is the host for the beautiful Northern Jezebel's caterpillars. The butterfly is coloured in bright yellow, red, black and white. To grow this mistletoe, squeeze the sticky seed from a fresh red berry onto the young green bark of a bottlebrush tree. Make sure it is exposed to lots of direct sunlight. Mistletoes provide fruit for the secretive mistletoe bird and nectar for honeyeaters.

Frank Jordan

BOOK REVIEW

Australian Cicadas by M.S. Moulds – 217 pages Hardcover.

“For many Australians the crescendo of cicadas in November signals the real onset of summer. However, beyond recognizing the more common species by their highly descriptive names – Greengrocer, Black Prince, Red Eye or Floury Baker – most of us know little about these creatures which seem to appear mysteriously and erratically from nowhere.

This book written by Australia’s foremost expert on cicadas, Max Moulds, will fill the gap in our knowledge, and we can now not only identify Australian species using the superb colour illustrations, but also establish their locale with the aid of the map provided with each entry.” Densey Clyne

“Cicadas” includes all the known facts about these insects and contains much new information not previously available. Detailed distributions are included for all species together with notes on habitat, song and life cycle wherever possible. There are also explanations of cicada sound production, classification and notes on collection and preservation. In short everything you could possibly want to know.

For both the amateur and professional naturalist and entomologist this is the definitive text.” David Hain



“Max Moulds is a research associate with the Australian Museum. He first became interested in cicadas as a teenager and after six years as a school teacher has devoted his entire career to entomology. He has published a number of research papers including a major bibliographical work on butterflies.” **All information taken from the flycover of the book.**

Cicada Sing-Song by Densey Clyne. Soft cover 33 pages.

A fascinating look into the intriguing lifecycle of cicadas. The stunning photographs show the many stages this insect grows through, including the unbelievably beautiful colours they are before becoming the rather staid adult, well hidden by its camouflage colours, to escape its predators. A wonderful introduction for any inquisitive youngster, by this well known and talented writer, photographer and broadcaster. Densey Clyne’s Small Worlds books.

Complied by Lois Hughes

YOU ASKED

Q. How does a butterfly feed?

A. A butterfly can only drink fluids, which it does through a long hollow tube called a proboscis. This is coiled up and tucked under the head when not in use. Butterflies not only drink nectar from flowers but also the juices of decaying fruit and exuding sap from damaged trees. Some species drink muddy water. Species vary greatly in their food preferences.

In Lois Hughes’ informative article on the Tiny Grass Blue in our last issue she gives the host plant’s common name as “Philippine Violet” and queried its botanical name. Out of curiosity I picked up the ponderous Encyclopedia Botanica at a Bookworld outlet, and thumbed through until I located the entry on this exotic plant. Its botanical name is *Barleria cristata* and it originates not in the Philippines but is from India and Burma. Also, being in the family Acanthaceae it is not a violet, but is a relative of the butterfly’s native hostplant “Karamat” or *Hygrophila angustifolia*.

John Moss

In the last issue we contemplated insect stability and ambulation on 6 legs in the horizontal plane. In the vertical plane, eg cicada on a tree trunk, the weight is mainly



supported by the strong forelegs from which it literally hangs. The hind legs, directed backwards, fulfill the role of a brace, and support some of the insect's weight, thus assisting the forelegs. The role of the middle pair of legs appears to mainly prevent sideways movement. However when clinging to the underside of a horizontal branch it is obvious that all 3 pairs of legs function as a hanging support. Ambulation in these two positions is assisted by an array of femoral and tibial spines which help the tarsal claws by digging into the substrate (bark).

John Moss

HAVE YOU GOT AN INVERTEBRATE STORY TO TELL? THIS MAGAZINE IS FOR THE MEMBERS TO SHARE THEIR OBSERVATIONS AND EXPERIENCES SO PLEASE CONTRIBUTE.

WORLD WIDE WEB SITES TO WATCH

<http://www.insects.org/> This site aims to help you *really* see insects for the miniature marvels they represent and to understand how intertwined our cultures have become with these alien creatures.

LETTERS

The following letter was received from Felix Jenkins

The Editor,

Thank you for publishing my article on the preservation of the Richmond Birdwing. It is the first of 32 and I would only be too glad to supply more if it is favourably received by the members, but they are mainly about other insects and birds.

Just a comment on your note about the possibility of *A.tagala* becoming a pest weed. It is not an exotic. It is the most common food plant in the Cairns area and it is indigenous to the whole south west Pacific area. I was breeding *O.richmondia* on it forty years ago when I had my own butterfly farm.

If you are attempting to breed Birdwings, the main advantage of *A.tagala* over other *Aristolochia* is that the butterfly can and does lay its eggs anywhere on the soft foliage and the baby larvae can eat immediately. Whereas *A.praevenosa* is mainly a forest



canopy plant, forcing *richmondia* to fly high where its food is mainly to be found. My feedback from growers when I was supplying it was that it does not do well on fences in back yards, also it has only a few soft leaves on its tips and if these are consumed quickly the larvae will die because they are not strong enough to tackle the hard leaves.

Every now and again we get a swarm of *richmondia* from somewhere up in the mountains (Felix lives at Kingscliff NSW). The last was six years ago. They must quickly eat out any of the food plants that are in the coastal rainforests.

All *Aristolochia* seeds only have a short viable life probably about six months and *A. tagala* does not care for the cooler weather. I am sure that if *richmondia* became plentiful there would be no chance of it becoming a weed.

I like the mag.

Yours faithfully,
Felix Jenkins

The following is from Felix's series "Unusual Moments in Nature"

Dragons, Assassins and Damsels

Sounds like an introduction to a Fantasy story doesn't it? But the scene for this saga is very likely set at your local creek, if you happen to live in the country or an outer suburb and the players are flies. By adding the word fly we get to meet some of the more interesting members of the insect world. The common Dragonfly (*Aeshna brevipistyla*) has quite a variety of popular names, Horse Stinger, Horsefly, etc. It is about 3 ins (80 mm) across the wings and a very voracious predator on anything that flies and is small enough to make a reasonable meal, but would not even contemplate taking on anything larger than itself. It is one of those rare and select groups of animals that can stay stationary in flight. Strangely enough its larva (nymph) is just as aggressive a carnivore in its natural habitat which is underwater.

The Damselflies (sub order Zygoptera) I use plural here because, while there are quite a lot of species of both suborders, generally the dragonflies are brown while the damselfly species are every colour of the rainbow and often numbers of the different species can be seen flying together. The colours are brilliant and so startlingly different that when I was a boy and collecting insects, I often wondered at their diversity. Unfortunately, when I set them on boards as I did with my butterflies they faded and went brown.

The coloured parts were of course the bodies. The wings, like all others, are transparent. The Damselflies resemble the Dragonflies in shape but while they look more delicate they are just as active hunters and can be seen munching an unfortunate smaller prey any time along the waterfront.



I have added another fly here although it is in an entirely different order because where I lived when I was young it was common in the same areas. It is the Assassin Fly (family Asilidae) which resembled one of the common striped blowflies but had a much longer body. You would see one sitting at a vantage spot on a dead limb or post, just waiting for an unsuspecting insect of the right size to come along. Then like lightning it would pounce, spearing it and grasping it with its forelegs. Amongst all the beauty of a lovely spring day all the theme of Nature goes on, kill and eat or be killed and eaten.

Felix Jenkins

Ed. Note: Assassin Flies (Order Diptera fam. Asilidae) are generally known as "Robber Flies", not to be confused with the Assassin Bug (order Hemiptera), a true "bug" which is also predatory on other small invertebrates.

LIBRARY BOOKS FOR LOAN

The following books are currently available for loan at meetings:-

Australia's Butterflies, by Peter Wilson

Butterfly Magic, by Helen Schwencke and Frank Jordan

Australian Cicadas, by Max Moulds

Butterflies of Australia, by Common and Waterhouse, 1981

Butterfly Watching, by Paul Whalley

Flying Colours, by Mike and Pat Couper

All Colour Book of Butterflies, by Robert Goodden

Lifecycle of the Ulysses Butterfly, Video, by Janet Richardson

Lifecycle of the Cairns Birdwing Butterfly, Video, by Janet Richardson

BACK ISSUES

**Back Issues of the Club Magazine are available at a cost of \$1 each plus postage
(3-6 copies - \$1.50. 1-2 copies \$1.10)**



ADS AND EXCHANGES

Sometimes you may have an oversupply of legally obtained caterpillars of non restricted species and your food supply will not hold out. If this happens, contact Rob MacSloy - 07 3824 4348 - who operates the Register of Host Plants. He can put you in touch with prospective "foster parents". Have **YOU** advised Rob of the host plants you have available?

Butterfly Host Plants are available from Yuruga Native Plants, PO Box 220, Walkamin Qld. 4872, Phone 40 933826, Fax 40 933869. See advertisement enclosed.

OTHER GROUP'S ACTIVITIES

If you would like to plant natives, but have experienced difficulty in buying suitable plants, why not try a visit to the IndigiScapes Centre at 17 Runnymede Road, Capalaba. They have created a permanent display of established native gardens, and hold a sale of local native plants on the first Saturday of each month.

The Queensland Museum is conducting workshops on the following:

Introduction to Butterflies (22, 23 September)

Butterflies are among the most beautiful and popular "bugs" and they are a welcome addition to suburbs during the warmer months. Their mostly unseen caterpillars munch away on the foliage of a variety of plants that can be grown to entice butterflies into the garden. They are the best known of the Australian insects and the only group that can be identified relatively easily. Observing, rearing and collecting butterflies can be a fascinating and rewarding pastime.

This workshop will include:

- An illustrated introduction to butterflies
- Butterfly biology and behaviour. Are they really gentle creatures?
- What to plant to attract butterflies to your garden; host plants and nectar sources.
- Simple cages and tips for breeding caterpillars.



- Making a butterfly collection; butterfly specimens, setting board and pins provided.
- Labelling, record keeping to make your collection scientifically valuable.
- Identification of common species of butterflies from south-east Queensland.

Presenters: Chris Burwell has extensive experience and is curator of higher insects which includes butterflies. Katie Hiller is from the Inquiry Centre and has spent many years rearing and studying butterflies.

Introduction to Spiders

Spiders are among the most seen, least known but most feared of the invertebrates of Australia. Only a very few are large, black, hairy and dangerous. Most spiders are harmless and have an important part to play in the web of life. Some catch their prey in large webs, some wait in ambush for the unwary, some fish with a line while others actively hunt. It is conservatively estimated that there are about 10,000 different species of spiders of which only one quarter are named.

This workshop will include:

- An introduction to spiders
- Spider behaviour and biology: how to hang by a thread, construct a web, catch prey and mate without being eaten
- Importance of spiders in the ecosystem
- Identification of general groups; trapdoors, web weavers, ground hunters and tree hunters.
- Myths and legends: there is a large amount of misinformation circulating.
- Spider bites: how to avoid being bitten and what to expect if you are.

Presenters: Robert Raven is an expert in trapdoor spiders and is the curator of Arachnids which includes spiders. Matthew Shaw is from the Inquiry Centre and is an expert in ticks which are also Arachnids.

Costs for workshop : Adult \$35.00 – Concession \$25.00 – Additional family member \$20.00. Phone Qld. Museum on (07) 3840 7555 to make enquiries about bookings

BUTTERFLY AND OTHER INVERTEBRATES CLUB PROGRAMME

Butterfly Club Planning and Management Meeting

When: Wed 18th October, 7.30pm – 9.30pm

Where: Daphne Bowden's place at Manly

Contact: Helen on 3844 6677 for address and details



David Barnes Wildlife Garden (part of the ABC's Open Garden Scheme)

When: Saturday 21st & Sunday, 22nd October, starting at 9.30am- 4pm
Where: 52 Bellicent Rd., Bracken Ridge
What: Come and visit David & Majory's Garden (BOIC Club Members), and visit or help out at our information stand. We'd love to see you.
R.S.V.P. Helen 3844 6677, fax 3844 4333, email hschwenc@dovenetq.net.au

Murdoch de Baar's Garden

When: Saturday 28th October, 2000, starting 3.15pm
What: Come and see the plants Murdoch is growing. Murdoch has a long standing interest in butterflies, and specialist knowledge on Mistletoe butterflies. He is the author of a number of articles on the subject.
Where: Meeting at Sherwood Arboretum, we will proceed to Murdoch's place nearby to see his garden. We will be returning to Sherwood Arboretum for a BYO BBQ or picnic (early) dinner and returning to Murdoch on Dusk to (hopefully) see his Azure butterfly caterpillars being attended to their night feeding stations attended by their ants.
Bring: BYO BBQ or picnic dinner, insect repellant
Contact: Helen 3844 6677, fax 3844 4333, email hschwenc@dovenetq.net.au

Dragonfly Excursion (and End of Year function) to be led by Deniss Reeves

When: Sat 18th November, starting 12 noon
Where: Meet at the Mt. Cootha Botanic Gardens
What: The excursion will be followed by a BYO BBQ or picnic dinner at JC Slaughter Falls at the base of Mt. Cootha. During the afternoon we will be visiting good dragonfly sites at the Gardens and in the local vicinity.
Bring: Your own lunch afternoon tea, dinner, drinks, crockery and cutlery, snacks to share, torch and insect repellent
RSVP/Contact: Helen 3844 6677, fax 3844 4333, email hschwenc@dovenetq.net.au

If you plan to attend any of the above events please respond to the person indicated in case, for some unforeseen circumstance, the event has had to be postponed or cancelled.



DISCLAIMER

The Newsletter seeks to be as scientifically accurate as possible but the views, opinions and observations expressed are those of the authors. The Newsletter is merely a platform for people to express their views and are not necessarily those of the BOIC. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

ACKNOWLEDGMENTS

Producing this newsletter is done due to the efforts of:

- Those members who have sent in letters and articles
- Lois Hughes who provided illustrations and developed the cover
- Daphne Bowden who works on layout, production and distribution
- John Moss for scientific referencing
- Helen Schwencke who developed the overall design and works on content
- Frank Jordan for inspiration

We would like to thank all these people for their contribution

ARE YOU A MEMBER

*Please check your mailing label for the date your membership is due for renewal. If your membership is due, please renew as soon as possible.
Membership fees are \$10.00 for Individuals/Schools and \$15 for family membership.*

Butterfly and Other Invertebrates Club Inc.
c/- PO Box 2113
Runcorn Q 4113

Coming events – SGAP Flower Show 9/10th September – David Barnes Open Garden 21/22nd October - Murdoch de Baar's Garden 28th October - Dragonfly Excursion 18th November.

